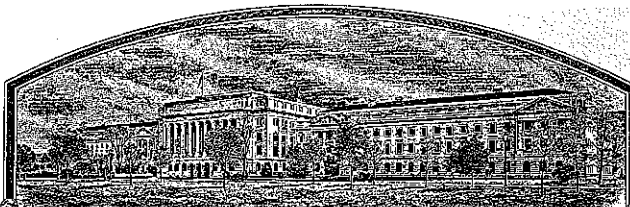


No.

200300136



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**D&H Technology Holding Corp.**

Whereas, THERE HAS BEEN PRESENTED TO THE

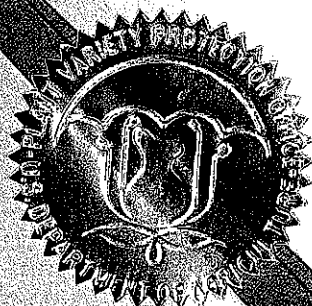
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'DP 5634 RR'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty third day of May, in the year two thousand three.

Attest:

*Palmer*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Reiman*

Secretary

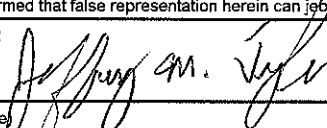
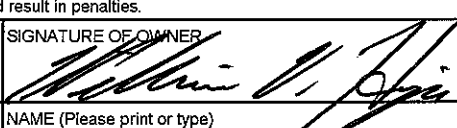
U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>D&amp;PL Technology Holding Corp.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>DPX 5734 RR</b>		3. VARIETY NAME <b>DP 5634 RR</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country ) <b>PO Box 157 100 Main Street Scott, Mississippi 38772 USA</b>		5. TELEPHONE (include area code) <b>(662) 742-4141</b>		PVPO NUMBER <b>20030013</b>	
		6. FAX (include area code) <b>(662) 742-3182</b>		FILING DATE <b>2/5/2003</b>	
7. IF THE OWNER IS NOT A "PERSON" GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Delaware</b>		9. DATE OF INCORPORATION <b>February 29, 1996</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Delta and Pine Land Company Kelly Casavechia P.O. Box 157 Scott, MS 38772</b>				FILING AND EXAMINATION FEE: <b>\$ 2,705.00</b> DATE <b>2/5/2003</b> CERTIFICATION FEE: <b>\$ 432.00</b> DATE <b>5/16/2003</b>	
11. TELEPHONE (include area code) <b>(662) 742-4141</b>		12. FAX (include area code) <b>(662) 742-3182</b>		13. E_MAIL <b>kelly.h.casavechia@deltaandpine.com</b>	
14. CROP KIND (Common Name) <b>Soybean</b>					
15. GENUS AND SPECIES NAME OF CROP <b>Glycine Max</b>		16. FAMILY NAME (Botanical) <b>Leguminosae</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse). a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER 		
NAME (Please print or type) <b>Jeffrey M. Tyler</b>			NAME (Please print or type) <b>William V. Hugie</b>		
CAPACITY OR TITLE <b>Midsouth Soybean Breeder</b>		DATE <b>2/3/2003</b>		CAPACITY OR TITLE <b>Vice President/Dir. of Research</b>	

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office  
Telephone: (301) 504-5518  
FAX: (301) 504-5291  
Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

## ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method  
(2) the details of subsequent stages of selection and multiplication;  
(3) evidence of uniformity and stability; and  
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) Identify these varieties and state all differences objectively;  
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and  
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See Regulations and Rules of Practice, Section 97.103.*)
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

March 15, 2002 - USA

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

## ROUNDUP READY®:

These seeds are covered under U.S. Patents 5,633,435; 5,352,605; 5,530,196; 5,188,642; 4,940,835; 5,717,084; 5,728,925; and 5,804,425.

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U. S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 8.0a. Replaces STD-470 (02-99) which is obsolete.

PVP Application for:  
DP 5634 RR

EXHIBIT A  
Origin and Breeding History of the Variety

Summer 1995	Original cross made at Scott, MS between P9584 and an F1 plant from the cross A5979 X (P9592 * (DP 415 * (DPX2384 (2)*40-3-2RR))) .
Winter 1995-1996	F1 advanced to F2 under lights in Costa Rica
Summer -Fall 1996	F2 advanced to F4 by the bulk pod method in Costa Rica
Winter 1996-1997	F4 seed planted and about 400 single plants were selected
Summer 1997	About 200 F5 rows were planted at Hartsville, SC and row C97-2734 was found to be uniform and stable for the characteristics listed in Exhibit C of this application. C97-2734 was selected for apparent yield and general adaptation, based on visual assessment. The plants in row C97-2734 were harvested in bulk.
Summer 1998	C97-2734 was yield tested at Hartsville, SC. Individual plants were harvested out of the border rows to begin the purification process. C97-2734 was advanced based on measured seed yield.
Summer 1999	C97-2734 was yield tested at 5 locations in southern US. Purity rows were harvested.
Summer 2000	C97-2734 was yield tested at 7 locations in southern US. Purity plots were harvested providing 46 pounds of seed, which was sent to Costa Rica for Winter Increase.
Summer 2001	C97-2734 was yield tested at 11 locations in southern US. Approximately 45 acres were planted for increase. Experimental number DPX 5734 RR was assigned.
Summer 2002	DPX 5734 RR was tested at 8 Southern US locations. Approximately 40,000 units (50 pound) were produced. Variety name DP 5634 RR was assigned. After five years of testing and seed increase, DP 5634 RR has been observed to be uniform and stable for characteristics listed in Exhibit C of this application. No variants were observed.

D&PL TECHNOLOGY HOLDING CORP.'S  
APPLICATION FOR :

DP 5634 RR

Exhibit B  
Statement of Distinctness

NOVELTY STATEMENT

To our knowledge, DP 5634 RR most resembles DP 5644 RR. Difference includes but are not restricted to the following:

1. DP 5634 RR is highly resistant to southern root knot nematodes, whereas DP 5644 RR is susceptible.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT C  
(Soybean)**

**OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* (L.) Merr.)**

NAME OF APPLICANT(S) <b>D&amp;PL Technology Holding Corp.</b>	FOR OFFICIAL USE ONLY <b>200300136</b>
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>P.O. Box 157 Scott, Mississippi 38772</b>	VARIETY NAME <b>DP 5634 RR</b>
	TEMPORARY OR EXPERIMENTAL DESIGNATION <b>DPX 5734 RR</b>

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g. 

9	9	9
---	---	---

 or 

0	9
---	---

) when number is either 99 or less or 9 or less respectively. Data for quantitative

plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal

Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

**A. MORPHOLOGY**

**Seed Shape:**

<table border="1"><tr><td>2</td></tr></table>	2	1 = Spherical (L/W, L/T, and T/W ratios < 1.2)	2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)
2			
	3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)	4 = Elongate-Flattened (L/T ratio > 1.2; T/W ratio > 1.2)	

**Seed Coat Color:**

<table border="1"><tr><td>1</td></tr></table>	1	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Please Specify)
1						

**Seed Coat Luster:**

<table border="1"><tr><td>1</td></tr></table>	1	1 = Dull	2 = Shiny
1			

**Seed Size:**

<table border="1"><tr><td>1</td><td>4</td></tr></table>	1	4	grams/100 seeds
1	4		

**Hilum Color:**

<table border="1"><tr><td>6</td></tr></table>	6	1 = Buff 6 = Black	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black	7 = Other (Please Specify)
6							

# A. MORPHOLOGY (Continued)

200300136

## Cotyledon Color:

1 = Yellow      2 = Green

## Seed Protein Peroxidase Activity:

1 = Low      2 = High

## Hypocotyl Color:

1 = Green      2 = Green with Bronze      3 = Light Purple      4 = Dark Purple extending to  
( 'Evans' or 'Davis' ) Bands below Cotyledon      below Cotyledons      unifoliate leaves ( 'Hodgson',  
( 'Woodworth' or 'Tracy' ) ( 'Beeson' or 'Pickett 71' ) 'Coker', or 'Hampton 266A' )

## Leaf Shape:

1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Please Specify)

## Flower Color:

1 = White      2 = Purple      3 = White with a Purple Throat

## Pod Color:

1 = Tan      2 = Brown      3 = Black

## Pubescence Color:

1 = Gray      2 = Brown (Tawny)      3 = Light Tawny

## Plant Habit:

1 = Determinate      2 = Semi - Determinate      3 = Indeterminate      4 = Intermediate

## Maturity Group:

<input type="text" value="0"/> <input type="text" value="8"/>	1 = 000 6 = III 11 = VIII	2 = 00 7 = IV 12 = IX	3 = 0 8 = V 13 = X	4 = I 9 = VI 14 = XI	5 = II 10 = VII 15 = XII
---	---------------------------------	-----------------------------	--------------------------	----------------------------	--------------------------------

## Maturity Subgroup:

Please enter a value from 0 - 9

# B. DISEASE REACTIONS

0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Tolerant

## Bacterial

Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

## Fungal

200300136

 Brown Spot (*Septoria glycines* Hemmi)
Frogeye Leaf Spot (*Cercospora sojina* Hara)
 race 1

 race 2

 race 3

 race 4

 race 5

 race 6

 Other (Please Specify)

 Target Spot (*Corynespora cassicola* (Berk. & Curt.) Wei)

 Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

 Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

 Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

 Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

 Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

 Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

 Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)
Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))
 race 1

 race 8

 race 15

 race 22

 race 2

 race 9

 race 16

 race 23

 race 3

 race 10

 race 17

 race 24

 race 4

 race 11

 race 18

 race 25

 race 5

 race 12

 race 19

 race 26

 race 6

 race 13

 race 20

 Other (Please Specify)

 race 7

 race 14

 race 21

 Bud Blight (Tobacco Ringspot Virus)

 Yellow Mosaic (Bean Yellow Mosaic Virus)



Cowpea Mosaic (Cowpea Chlorotic Virus)

Pod Mottle (Bean Pod Mottle Virus)

Seed Mottle (Soybean Mosaic Virus)

200300136

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

race 1

race 4

race 9

race 2

race 5

race 14

race 3

race 6

Other (*Please Specify*)

Lance Nematode (*Hoplolaimus columbus* Sher)

Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

Other Nematode (*Please Specify*)

C. PHYSIOLOGICAL RESPONSES      0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Tolerant

Iron Chlorosis on Calcareous Soil

Phosphorus

Other (*Please Specify*) \_\_\_\_\_

Boron

Aluminum

Salt

Drought

**D. INSECT REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

Mexican Bean Beetle (*Epilachna varivestis* Mulsant)Potato Leaf Hopper (*Empoasca fabae* (Harris))

Other (Please Specify)

**E. HERBICIDE REACTIONS**

0 = Not Tested

1 = Susceptible

2 = Resistant

Metribuzin

Bentazone

Sulfonylurea

Glyphosate

Glufosinate

Pendimethalin

Other (Please Specify)

**F. TRANSGENIC COMPOSITION**

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests\*. Use additional pages if necessary.

1. Please state the vector's name:

☒

yes

☐

no

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the subject variety:

4. Please describe the insertion protocol:

\* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

DP 5634 RR is a Roundup Ready TM variety derived from the Monsanto transformant 40-3-2. Please see Crop Science 35:1451-1461 (1995)

**G. BIOCHEMICAL MARKERS**

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

---

**H. COMMENTS**

# **DP 5634 RR** **PRODUCT PERFORMANCE**

## Combined data, all locations 1999-2002

	YIELD		MAT	HGT	LDG
	bu/ac	%5806			
<b>DP 5634 RR</b>	<b>50.6</b>	<b>109</b>	<b>-4.1</b>	<b>34.9</b>	<b>1.7</b>
DP 5806 RR	46.4	100	0	36.9	2.3
Locations	30		15	18	18

## Data by region

### Midsouth, all locations, 2000-2002

	YIELD		MAT	HGT	LDG
	bu/ac	%5806			
<b>DP 5634 RR</b>	<b>50.4</b>	<b>114</b>	<b>-3.5</b>	<b>36.9</b>	<b>1.9</b>
DP 5806 RR	44.0	100	0	38.3	2.3
Locations	20		9	10	10

### Southeast, all locations, 2000-2001

	YIELD		MAT	HGT	LDG
	bu/ac	%5806			
<b>DP 5634 RR</b>	<b>46.3</b>	<b>97</b>	<b>-6.2</b>	<b>32.0</b>	<b>1.5</b>
DP 5806 RR	47.8	100	0	36.3	2.0
Locations	5		3	5	6

### Comparison to DP 5644 RR, all locations, 2001-2002

	YIELD		MAT	HGT	LDG
	bu/ac	%5644			
<b>DP 5634 RR</b>	<b>49.7</b>	<b>105</b>	<b>0.8</b>	<b>37.1</b>	<b>1.8</b>
DP 5644 RR	47.5	100	0	36.4	1.5
Locations	18		7	10	11

In 24/30 research trials, DP 5634 RR has outyielded DP 5806 RR.  
 In 13/18 research trials, DP 5634 RR has outyielded DP 5644 RR.

# **DP 5634 RR** DISEASE REACTION DOCUMENTATION

## Soybean Cyst Nematode (*Heterodera glycines*)

Data from Dr. Lawrence Young, USDA, Stoneville, MS

Line	Race 3	Race 3	Race14	Race14
	2000	2001	2000	2001
<b>DP 5634 RR</b>	<b>1.0</b>	<b>1.1</b>	<b>2.0</b>	<b>3.8</b>
Hutcheson	5.0	5.0	---	5.0
Bedford	1.2	1.0	---	1.4

Scale: 1= 0 to 5 females/plant, 2= 6 to 10, 3= 11 to 20, 4 = 21-40, 5 = more than 40 females/plant

Data from Dr. Bob Riggs, University of Arkansas (2000):

Line	Disease Index <sup>1</sup>			
	Race1	Race3	Race4	Race14
<b>DP 5634 RR</b>	<b>2.8 R</b>	<b>3.4 R</b>	<b>176 S</b>	<b>120 S</b>
LEE 74	100 S	100 S	100 S	100 S
PICKETT	1 R	0 R	76 S	196 S
PEKING	0 R	0 R	13 MR	68 S
PI 88788	70 S	0 R	1 R	4 R
PI 90763	0 R	0 R	10 R	59 MS

<sup>1</sup>Disease index = percentage of cysts on LEE 74, average of 5 reps; ratings based on a scale developed by Schmitt and Shannon, Crop Sci. 32:275-277 (1992).

Data from Dr. Bob Riggs, University of Arkansas (2001):

Line	Disease Index <sup>1</sup>			
	Race2	Race3	Race5	Race14
<b>DP 5634 RR</b>	<b>81 S</b>	<b>20 MR</b>	<b>34 MS</b>	<b>100 S</b>
LEE 74	100 S	100 S	100 S	100 S
PICKETT	92 S	1 R	90 S	100 S
PEKING	55 MS	0 R	1 R	45 MS
PI 88788	28 MR	3 R	44 MS	4 R
PI 90763	9 R	0 R	0 R	62 S

<sup>1</sup>Disease index = percentage of cysts on LEE 74, average of 5 reps; ratings based on a scale developed by Schmitt and Shannon, Crop Sci. 32:275-277 (1992).

Data from Dr. Gene Moore DairyLand Seed (race 1) and Karen Gallo Syngenta (races 3 14) (2002):

Line	Disease Index <sup>1</sup>		
	Race1	Race3	Race14
<b>DP 5634 RR</b>	<b>3.1 R</b>	<b>0 R</b>	<b>15 MR</b>
Bedford		1 R	2 R
Essex		140 S	72 S

Root Knot Nematode (*Meloidogyne incognita* and *M. arenaria*)

Data from Dr. Roger Boerma, Univ. of Georgia 2000/2001.

<u>Line</u>	<u>M.i.</u>	<u>M.i.</u>	<u>M.a</u>	<u>M.a</u>
	<u>2000</u>	<u>2001</u>	<u>2000</u>	<u>2001</u>
DP 5634 RR	1.0	1.3	4.2	1.5
DP 5644 RR	4.0	4.0		
Res ck	1.0	1.0	1.7	1.8
Bossier	5.0	4.8	5.0	3.3

Scale: 1- no galling, 5- very severe galling

Data from Dr. Bob Riggs, University of Arkansas (2000):

<u>Line</u>	<u>Disease Index<sup>1</sup></u>			
	<u>Race1</u>	<u>Race3</u>	<u>Race4</u>	<u>Race14</u>
DP 5634 RR	2.8 R	3.4 R	176 S	120 S
DP 5644 RR	53 MS			
LEE 74	100 S	100 S	100 S	100 S
PICKETT	1 R	0 R	76 S	196 S
PEKING	0 R	0 R	13 MR	68 S
PI 88788	70 S	0 R	1 R	4 R
PI 90763	0 R	0 R	10 R	59 MS

<sup>1</sup>Disease index = percentage of cysts on LEE 74, average of 5 reps; ratings based on a scale developed by Schmitt and Shannon, Crop Sci. 32:275-277 (1992).

Root Knot Nematode (*Meloidogyne incognita* and *M. arenaria*)

Data from Dr. Roger Boerma, Univ. of Georgia 2000/2001.

Line	<i>M.i.</i> 2000	<i>M.i.</i> 2001	<i>M.a.</i> 2000	<i>M.a.</i> 2001
<b>DP 5634 RR</b>	<b>1.0</b>	<b>1.3</b>	<b>4.2</b>	<b>1.5</b>
Res ck	1.0	1.0	1.7	1.8
Bossier	5.0	4.8	5.0	3.3

Scale: 1= no galling, 5= very severe galling

Stem Canker (*Diaporthe phaseolorum* (Cooke & Ellis) Sacc. f. sp. *meridionalis* (Morgan-Jones)

Data from Dr. Jeff Tyler , D&amp;PL (2000 - 2002).

Line	2000 Score	2001 Score	2002 Score
<b>DP 5634RR</b>	<b>1.5</b>	<b>2.3</b>	<b>1.5</b>
DP 5806 RR	1.7	2.0	1.5
P9594	3.7	4.1	4.5

Scale: 1= no symptoms, 5= very severe symptoms

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  <b>D&amp;PL TECHNOLOGY HOLDING CORP.</b>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER <b>DPX 5734 RR</b>	3. VARIETY NAME  <b>DP 5634 RR</b>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  <b>P.O. BOX 157 SCOTT, MISSISSIPPI 38772</b>	5. TELEPHONE (Include area code)  <b>662.742.4141</b>	6. FAX (Include area code)  <b>662.742.3182</b>
7. PVPO NUMBER <b>200300136</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES ☐ NO

10. Is the applicant the original owner?

☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

**DP 5634 RR contains a proprietary gene, patented by the Monsanto Company and licensed to D&PL, which encodes a protein which provides tolerance to glyphosate herbicide in soybean cultivars.****PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.